

In re Patent Application of:
ESPOSITO CORCIONE ET AL.
Serial No. 10/728,361
Filing Date: DECEMBER 4, 2003

REMARKS

The Examiner is thanked for the thorough examination of the present application. For the reasons set forth in greater detail below, it is believed that all of the claims are patentable over the prior art.

I. The Claims Are Patentable

The Examiner rejected all of the independent claims over a combination of Yang, Matsuto et al. and Chao et al. The Examiner correctly recognizes that the combination of Yang and Matsuto et al. fails to disclose the electronic torque management unit for controlling the internal combustion engine and the electric motor, and looks to Chao et al. to provide such. The Examiner cites Chao et al. as disclosing an electronic torque management unit for controlling an electric motor, and cites to FIG. 11 and Columns 7-8 in support thereof. However, FIG. 11 (reproduced below for the Examiner's convenience) shows a controller 103 for comparing the rotational speeds of the bicycle pedals and the electric motor 20, and correspondingly assigning that source having a lower rotational speed to drive the chain wheel 14 and bicycle frame.

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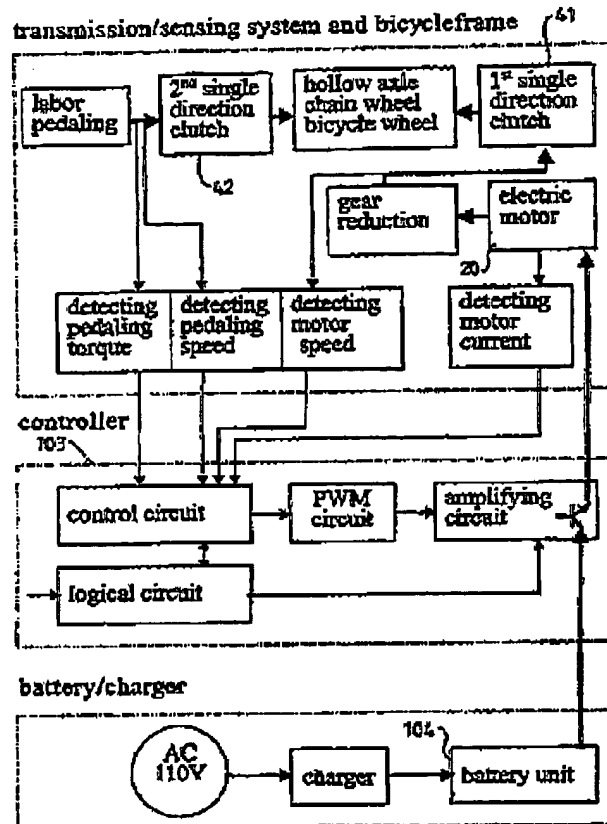


FIG. 11 of Chao et al.

Chao et al. further discloses in its specification:

"When cycling, the pedal force is transmitted to the hollow axle 13 via the crankshaft 11, the pedal force transmitting sleeve 51, and the second single direction clutch 42, thereby driving the chain wheel 14 and the bicycle frame. In the mean time, the pedal force also causes axial displacement of the pedal force sensing sleeve 52 such that the sensor means 60 outputs an analog voltage signal representing the magnitude of the pedal force, a first digital logic signal representing rotational speed of the pedals, and a second digital logic signal representing rotational speed of the electric

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motor 20 to a controller 103 (FIG. 1)... Again, when the rotational speed of the pedals is higher than the rotational speed of the electric motor 20 after gear reduction, the first single direction clutch 41 is in a disengaged status while the second single direction clutch 42 is in an engaged status such that the pedal force solely drives the chain wheel 14 and the bicycle frame. When the rotational speed of the pedals is lower than the rotational speed of the electric motor 20 after gear reduction, the first single direction clutch 41 is in an engaged status while the second single direction clutch 42 is in a disengaged status such that the power of the electric motor 20 solely drives the chain wheel 14 and the bicycle frame. When the rotational speed of the pedals is equal to the rotational speed of the electric motor 20 after gear reduction, the first and second single direction clutches 41 and 42 are both in an engaged status such that the pedal force and the power of the electric motor 20 together drive the chain wheel 14 and the bicycle frame." (Col. 7, lines 31-43; Col. 7, line 60 - Col. 8, line 9)

In other words, Chao et al. discloses a controller for controlling a user's pedaling and an electric motor based upon speed, and fails to disclose the electronic torque management unit for controlling an internal combustion engine and an electric motor, as in the claimed invention. Accordingly, even the selective combination of the three references cited by the Examiner fails to disclose the claimed invention. Thus, the claims are patentable for this deficiency alone.

The Examiner further contended that it would have been obvious to one of ordinary skill in the art at the time of the present invention to incorporate a front wheel having a hub-mounted motor, as disclosed in Yang, on a motorcycle of

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Matsuto et al. to prevent rear wheel slippage and balanced weight distribution and to add a controller from Chao et al. Applicants respectfully disagree for the following reasons.

Yang is "more suited for wheel-chairs, bicycles, low-speed vehicles, etc." (Col. 3, lines 13-14). Matsuto et al. discloses a hybrid motorcycle that includes an internal combustion engine, and wherein a clutch shaft, transmission shaft and electric motor shaft are disposed in series and also in parallel to and higher than the crank shaft. Chao et al. discloses a controller for controlling an electric motor on a bicycle that may be powered also by the user's legs.

Applicants respectfully submit that the Examiner has impermissibly used Applicants' own specification as a roadmap to assemble disjoint pieces of the three prior art references in an attempt to produce the claimed invention. The three references all disclose separate and mutually exclusive means for propulsion. There is no proper motivation in the prior art to selectively combine the references as suggested by the Examiner. Accordingly, Applicants also submit that the claims are patentable for this failure of the prior art.

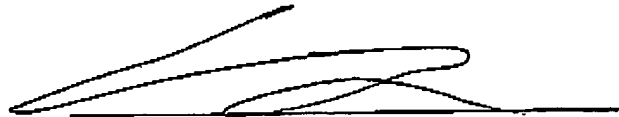
In view of the patentability of the independent Claims 6, 13 and 19, it is submitted that their dependent claims, that recite yet further distinguishing features are also patentable. These dependent claims require no further discussion herein.

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II. Conclusions

In view of the arguments provided herein, it is submitted that all of the claims are patentable. A Notice of Allowance is requested in due course. Should any minor informalities need to be addressed, the Examiner is encouraged to contact the undersigned at the telephone number listed below.

Respectfully submitted,



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CERTIFICATE OF FACSIMILE TRANSMISSION

I HEREBY CERTIFY that the foregoing correspondence has been forwarded via facsimile number 571-273-8300 to the Commissioner of Patents this 30th day of June, 2006.

